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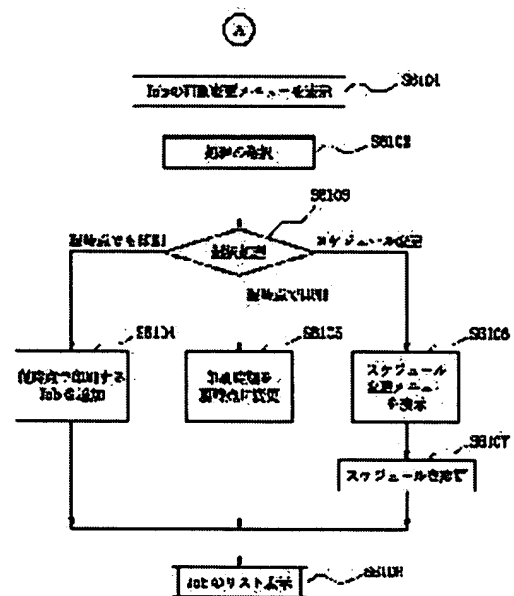
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(54) DEVICE AND METHOD FOR PROCESSING INFORMATION AND STORAGE MEDIUM STORED WITH PROGRAM THEREFOR

(57)Abstract:

PROBLEM TO BE SOLVED: To enable varying time for print printing object information in a print standby.

SOLUTION: This information processing method is provided with a printing process for executing the printing of a job, display process for displaying the list of jobs stored in a job storage part for storing the jobs corresponding to the time of execution, job selecting process for selecting a job from the list of jobs, change process for changing the timing of execution stored in the job storage part corresponding to the selected job, and control process for controlling the printing process, so as to print the job stored in the job storage part when executing stored in the job storage part corresponding to that job.



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CLAIMS

[Claim(s)]

[Claim 1] A printing means to perform printing of processing-object information, and a processing-object information storage means to match processing-object information with an activation stage, and to memorize it, A display means to display the list of the processing-object information memorized by this processing-object information storage means, A processing-object information selection means to choose processing-object information from the list of said processing-object information, A modification means to change the activation stage which matched with the processing-object information chosen by this processing-object information selection means, and was memorized by said processing-object information storage means, The information processor characterized by having the control means which controls said printing means to print the processing-object information memorized by said processing-object information storage means at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage means.

[Claim 2] Said modification means is an information processor according to claim 1 characterized by changing so that the activation stage of said selected processing-object information may be performed immediately.

[Claim 3] It is the information processor according to claim 1 which has a stage assignment means to specify a stage and is characterized by changing said modification means so that the activation stage of said selected processing-object information may be performed at the stage specified by said stage assignment means.

[Claim 4] The information processor according to claim 1 characterized by having an additional means to add the processing-object information which performs said selected processing-object information at a different stage from this activation stage to said processing-object information storage means, without changing the activation stage of said selected processing-object information.

[Claim 5] Said additional means is an information processor according to claim 4 characterized by adding the processing-object information which performs said selected processing-object information immediately.

[Claim 6] It is the information processor according to claim 4 which has a stage assignment means to specify a stage and is characterized by changing said modification means so that the activation stage of said selected processing-object information may be performed at the stage specified by said stage assignment means.

[Claim 7] The information processor according to claim 1 with which said modification means is characterized by activation of said selected processing-object information being cancellable.

[Claim 8] The information processor according to claim 7 characterized by memorizing having been canceled for said hysteresis storage means when it has a hysteresis storage means to memorize with the class of processing of the activation hysteresis of processing-object information and activation of said selected processing-object information is canceled with said modification means.

[Claim 9] The display process which displays the list of the processing-object information memorized

by the processing-object information storage section which matches processing-object information with an activation stage, and remembers it to be the presswork which performs printing of processing-object information, The processing-object information selection process which chooses processing-object information from the list of said processing-object information, The modification process which changes the activation stage which matched with the processing-object information chosen by this processing-object information selection process, and was memorized by said processing-object information storage section, The information processing approach characterized by having the control process which controls said presswork to print the processing-object information memorized by said processing-object information storage section at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage section.

[Claim 10] The information processing approach according to claim 9 characterized by changing at said modification process so that the activation stage of said selected processing-object information may be performed immediately.

[Claim 11] The information processing approach according to claim 9 characterized by changing so that it may have the stage assignment process of specifying a stage and the activation stage of said selected processing-object information may be performed at said modification process at the stage specified according to said stage assignment process.

[Claim 12] The information processing approach according to claim 9 characterized by having like the additional processing which adds the processing-object information which performs said selected processing-object information at a different stage from this activation stage to said processing-object information storage section, without changing the activation stage of said selected processing-object information.

[Claim 13] The information processing approach according to claim 12 characterized by adding the processing-object information which performs said selected processing-object information immediately like said additional processing.

[Claim 14] The information processing approach according to claim 12 characterized by changing so that it may have the stage assignment process of specifying a stage and the activation stage of said selected processing-object information may be performed at said modification process at the stage specified according to said stage assignment process.

[Claim 15] The information processing approach according to claim 9 characterized by activation of said selected processing-object information being cancellable in said modification process.

[Claim 16] The information processing approach according to claim 15 characterized by memorizing having been canceled in said hysteresis storage section when it has the hysteresis storage process of memorizing the activation hysteresis of processing-object information in the hysteresis storage section with the class of processing and activation of said selected processing-object information is canceled according to said modification process.

[Claim 17] The display process which displays the list of the processing-object information memorized by the processing-object information storage section which matches processing-object information with an activation stage, and remembers it to be the presswork which performs printing of processing-object information, The processing-object information selection process which chooses processing-object information from the list of said processing-object information, The modification process which changes the activation stage which matched with the processing-object information chosen by this processing-object information selection process, and was memorized by said processing-object information storage section, The storage which is characterized by memorizing a program equipped with the control process which controls said presswork to print the processing-object information memorized by said processing-object information storage section at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage section and in which a program store is possible.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the information processor which performs printing, its approach, and the storage which memorized the program.

[0002]

[Description of the Prior Art] In the conventional information processor, directing and performing printing at the stage of the request which wants to perform printing is performed.

[0003]

[Problem(s) to be Solved by the Invention] Then, the stage is set up beforehand and there is a demand of enabling it to want to be able to print at the stage to perform printing at a specific stage. Furthermore, when setting up a stage such so that printing may be performed at a specific stage, it is desirable that the setup can be changed easily.

[0004]

[Means for Solving the Problem] A printing means to perform printing of processing-object information to an information processor according to this invention in order to solve the above-mentioned technical problem, A processing-object information storage means to match processing-object information with an activation stage, and to memorize it, A display means to display the list of the processing-object information memorized by this processing-object information storage means, A processing-object information selection means to choose processing-object information from the list of said processing-object information, A modification means to change the activation stage which matched with the processing-object information chosen by this processing-object information selection means, and was memorized by said processing-object information storage means, It has the control means which controls said printing means to print the processing-object information memorized by said processing-object information storage means at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage means.

[0005] Moreover, the presswork which performs printing of processing-object information to the information processing approach according to other modes, The display process which displays the list of the processing-object information memorized by the processing-object information storage section which matches processing-object information with an activation stage, and memorizes it, The processing-object information selection process which chooses processing-object information from the list of said processing-object information, The modification process which changes the activation stage which matched with the processing-object information chosen by this processing-object information selection process, and was memorized by said processing-object information storage section, It has the control process which controls said presswork to print the processing-object information memorized by said processing-object information storage section at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage section.

[0006] Moreover, the presswork which performs printing of processing-object information according to

other modes, The display process which displays the list of the processing-object information memorized by the processing-object information storage section which matches processing-object information with an activation stage, and memorizes it, The processing-object information selection process which chooses processing-object information from the list of said processing-object information, The modification process which changes the activation stage which matched with the processing-object information chosen by this processing-object information selection process, and was memorized by said processing-object information storage section, The program is memorized to the storage which can memorize a program equipped with the control process which controls said presswork to print the processing-object information memorized by said processing-object information storage section at the activation stage which matched with this processing-object information and was memorized by said processing-object information storage section.

[0007]

[Embodiment of the Invention] Hereafter, 1 operation gestalt of this invention is explained to a detail using a drawing.

[0008] Drawing 1 is drawing having shown the functional configuration of this operation gestalt, and shows the relation of a user 101, a client 102, a server 103, a database 104, and a demon 105. A client 102 and a server 103 may be on the same device, and may be on another device connected in the network etc.

[0009] If a user 101 performs a certain actuation to a client 102, a client 102 will generate the demand corresponding to the actuation, and will transmit to a server 103. A server 103 interprets the received demand, exchanges with a database 104, and processes performing an addition and deletion of Job, and acquisition of data etc. Consequently, a corresponding HTML page is created if needed and it transmits to a client 102. A client 102 displays the received HTML page and demands new actuation from a user 101.

[0010] Job saved in the database 104 is supervised by the demon 105, and a demon 105 performs processing of printing corresponding to Job with which the execution condition was filled, transmission, a notice, etc.

[0011] Drawing 2 is drawing showing the detail of the functional configuration of this operation gestalt.

[0012] The client component 102 consists of a control unit 201 and two Web Browser 202,203. The actuation of a user performed through the control unit 201 is changed into a demand by Web Browser 202,203, and is transmitted to the server component 103.

[0013] The server component 103 consists of Web Server 204, a device manager 205, a Request manager 207, and the Command analysis / processing section 208. the demand transmitted from the client component 102 receives by Web Server 204 -- having -- a device manager 205 -- or -- The Request manager 207 is passed.

[0014] A device manager 205 acquires the status of a printer 206, or controls. Request A manager 207 changes a demand into a processing command, and hands Command analysis / processing section 208.

[0015] In Command analysis / processing section 208, processing corresponding to the directed processing command is performed, a database 104 is accessed through the Database manager 209, and addition and renewal of Job are carried out.

[0016] On the other hand, a database 104 is accessed through the Database manager 209 at fixed spacing, Daemon105 confirms whether Job with which the execution condition was filled exists, and when it exists, it performs corresponding processing.

[0017] Drawing 3 is drawing explaining the information flow corresponding to actuation of a user.

[0018] Client A component 102 generates reception and a demand for actuation of a user as input, and is a server. It transmits to a component 103.

[0019] Server A component 103 interprets the received demand, exchanges it with a database 104 through a database manager 209, and processes performing an addition and deletion of Job, and acquisition of data etc. Moreover, through a device manager 205, it exchanges with a printer 206 and processes acquiring the status of a printer etc. Consequently, a corresponding display instruction (HTML page) is created if needed, and it transmits to a client 102.

[0020] A client 102 displays the received display instruction (HTML page) on a user, and new actuation is urged to it.

[0021] Through a database manager 209, Job saved in the database 104 is supervised by the demon 105, and performs processing of printing corresponding to Job with which the execution condition was filled, transmission, a notice, etc.

[0022] Drawing 4 is drawing having shown the flow of processing until processing of a corresponding command was performed, after receiving a user's input.

[0023] It will be changed into the operator guidance data which correspond by the control unit 201 if a user operates it. For example, the actuation which the user performed using the keyboard or the mouse is changed into a corresponding keycode and the information which can treat information processors, such as mouse migration information.

[0024] Then, Web Browser 202 which received the operator guidance data changed above is changed and transmitted to the corresponding demand to Web Server 204. For example, when one of the carbon buttons currently displayed on the screen is chosen, the demand of "choosing a specific carbon button" will be created.

[0025] Web Server 204 which received the above-mentioned demand is Request about the received data. They are delivery and Request to a manager 207. It changes into the processing command corresponding to a demand in a manager 207, and is Command. Analysis / processing section 208 is passed. For example, when the carbon button with which a user directs printing is chosen, from the demand of "choosing the carbon button which directs printing", it is changed into the processing command "processing activation corresponding to selection for the carbon button which directs printing", and performs.

[0026] Drawing 5 is drawing having shown the flow of processing corresponding to change of the result of the actually performed processing, and the status of a printer until it displayed information on a user.

[0027] Request which received the processing result A manager 207 hands corresponding operator guidance data to Web Server 204. Moreover, the device manager 205 who detected change of the status of a printer similarly hands corresponding operator guidance data to Web Server 204. For example, when displaying an actuation screen new as a processing result on a user, information for displaying on a screen is realized by changing into data like HTML. Moreover, information for displaying the status of a printer on a screen similarly is realized by changing into data like HTML.

[0028] Web Server 204 which received the above-mentioned operator guidance data transmits data to Web Browser 202, by Web Browser 202, is actually displaying on display control units, such as a touch panel, and shows them to a user.

[0029] Drawing 5 is drawing having shown processing and data flow until it displays information on a user corresponding to change of the result of the actually performed processing, and the status of a printer.

[0030] Request which received the processing result A manager 207 hands corresponding operator guidance data to Web Server 204. Moreover, the device manager 205 who detected change of the status of a printer similarly hands corresponding operator guidance data to Web Server 204. For example, when displaying an actuation screen new as a processing result on a user, information for displaying on a screen is realized by changing into data like HTML. Moreover, information for displaying the status of a printer on a screen similarly is realized by changing into data like HTML.

[0031] Web Server 204 which received the above-mentioned operator guidance data transmits data to Web Browser 202 and 203, by Web Browser 202, actually displays an actuation screen on display control units, such as a touch panel, and shows it to a user. Web Browser203 displays the status of a printer.

[0032] Drawing 6 is drawing showing the relation of the function between two or more devices (it considers as Device A and Device B). Here, Device A is an airline printer and uses Device B as the desktop PC which manages a user's e-mail and schedule. The client component 102, the server component 103, and a demon 105 exist in Device A and Device B, respectively. However, the user is omitting the client component 102 of Device B here as what is in Device A side.

[0033] Here, supposing a user operates it with Device A, a user's actuation information will be acquired by the control unit 201 as input, and will be passed as a demand to the device manager 205 and the Request manager 207 of the server component 103 by it.

[0034] A device manager 205 replies to a demand from a user by acquiring the status of a printer 206 etc. Moreover, Request A manager 207 is Command further in controlling a printer by the class of demand by the printing control section 601 ****. By the analysis processing section 208, more detailed information is analyzed and corresponding processing is performed.

[0035] Consequently, an informational format is changed by using the conversion control section 603 if needed, or various processings are performed through a control section 602. Here, if addition and renewal of Database104 will be performed through the Database manager 209 if it is judged that management of Job is required, and it is judged that a display is required, it will display by the display and control section 604. Moreover, if it is judged that a notice is required, the notice control section 605 will notify.

[0036] On the other hand, Daemon 105 supervises Database 104 periodically, and if Job with which were satisfied of the execution condition exists, it will perform corresponding processing.

[0037] Here, when it is judged that processing is not completed with Device A, a demand is transmitted to Device B and processing to which the Request manager 207 of Device B corresponds is performed. For example, in printing of the file of Device B, printing processing is performed by the printing section 607 using corresponding application. Moreover, in Mail access, it is accessed by the Mail control section 608 using corresponding application. In addition, corresponding application is used and reference of schedule information etc. is realized.

[0038] Furthermore, it can access also to Job stored in Database104 which Device B has.

[0039] Drawing 7 is a system configuration Fig. concerning this operation gestalt.

[0040] In this drawing, various equipments are connected to a network 701 and transmission and reception of data are performed to it through a network 701. A printer 702 has the input/output operation section 703 while printing the data received through the network. The input/output operation section 703 receives the directions from a user while performing various displays to a user. It has the input/output operation section with the same said also of a scanner 704 and the multifunction device 705. A scanner 704 reads optically the data printed by paper etc., and the multifunction device 705 has the printer 702 and the function of a scanner 704. A personal computer 706 creates a document and an image, or manages personal data, such as a user's mail and a schedule.

[0041] Drawing 8 is the functional block diagram of the printer concerning this operation gestalt.

[0042] In this drawing, a touch panel 801 can input the alphabetic character by selection and the keyboard displayed of a menu item because a user touches the screen, while performing the status of a printer, and the display of a menu screen to a user. In addition, it may replace with a touch panel 801 and a usual display and a usual keyboard may be prepared.

[0043] CPU802 performs various programs including the procedure later mentioned per flow chart, and controls each part of equipment connected by the system bus 808. The printing section 803 prints data on paper etc. The communications department 804 transmits and receives a desktop, a scanner, other printers, etc. and the data containing an instruction or the status through a network.

[0044] ROM805 memorizes fixed data and a fixed program. RAM806 stores data and a program temporarily. A hard disk drive (HDD) 807 can memorize a program and data permanently, and is used as a database mentioned above. A system bus 808 connects each part of equipment mentioned above, and is used as a medium which transmits and receives data, the address, and a control signal between equipment. Various programs including the procedure later mentioned per flow chart may be memorized by ROM805, and may be made to be loaded to RAM806 during activation of processing if needed in advance of processing from HDD807.

[0045] Drawing 9 is a flow chart which shows the starting sequence of a power up, and shows the starting sequence at the time of a user turning on a machine. If a user turns on a power source at step S901, OS will start and continue at step S902, and a web server will start at step S903. Next, a client starts at step S904 and, finally a demon starts at step S905.

[0046] Drawing 10 is a flow chart showing actuation of a client component. If a client starts, a web browser object is created at step S1001, a demand is given to a server component at step S1002, and HTML page creation is directed (the page at this time is Opening Screen). The HTML page sent from the server to the demand is expressed as step S1003, and it waits for a user's input at step S1004. And processing which corresponds by a user's input is performed. When a demand of a user is exit, at step S1006, a system and it ends. When a demand of a user should process on a client side, it processes at step S1009 and will be in a user's state waiting for an input again. When it should process on a server side, a processing demand is given to a server component at step S1008, and the HTML page created to the demand is received and displayed. Then, it will be in a user's state waiting for an input again.

[0047] Drawing 11 is a flow chart which shows the procedure of the server component to the demand of a client.

[0048] A server component acquires the demand of a client at step S1101, analyzes this demand at step S1102, and performs processing corresponding to a demand. To the demand which displays OpeningScreen, the printer status is acquired at step S1104. To Cancel All Jobs, it is step S1105, and the function CancelAllPrinterJobs() function later mentioned per drawing 12 is called, and all Job(s) are canceled. To a Cancel/Pause/Restart demand, a SetPrinterJobsStatus() function is set as a call and Status which had Job specified at step S1106.

[0049] To every above demand, the HTML page corresponding to the last is created at step S1107, a HTML page is transmitted to a client component at step S1108, and processing is finished.

[0050] When demands are "login" and "logout", it mentions later per drawing 15. When demands are "Goto Other Device" and "Goto Desktop", it mentions later per drawing 16. When demands are "Search", "Help", and "Receive Job/Receive Notification", it mentions later per drawing 17. When demands are "Print", "Send", "Delete", "Reschedule", and "Preview", it mentions later per drawing 22.

[0051] Drawing 12 is a flow chart which shows CancelAllPrinterjobs procedure. A prototype is DWORD CancelAllPrinterjobs().

[0052] Job is first acquired for the function GetAllPrinterJobs later mentioned per drawing 13 from a call and a spool at step S1201. A specific printer is opened at step S1202, and each status of Job is set to cancellation at step S1203. A printer is closed at step S1204 after that. This is performed until all Job(s) are set to cancellation.

[0053] Drawing 13 is a flow chart which shows the procedure of GetAllPrinterjobs. A prototype is Int GetAllPrinterjobs (pInfo).

[0054] First, an effective printer, a print server, a domain, print, and listing of a provider are performed using an EnumPrinter() function at step S1301. One of the objects enumerated at step S1302 is opened, effective Job(s) under spool are enumerated using an EnumJob() function at step S1303, and a printer is closed at step S1304. This actuation is performed about all objects.

[0055] Drawing 14 is a flow chart which shows the procedure of SetPrinterJobStatus. A prototype is Int SetPrinterJobStatus (pPrinterName, JobId, Status).

[0056] First, Job specified from the spool using the GetJob function at step S1401 is acquired. At step S1402, the specific printer by which the Job exists is opened, and it sets to the value which had the status of Job specified at step S1403. Finally a printer is closed and it finishes with step S1404.

[0057] Drawing 15 is a flow chart which shows the procedure of a server when the demands of a client are "login" and "logout."

[0058] When a demand is login, login verb and a remote device list are first acquired at step S1502, and a user name is acquired at step S1503. at the same time it creates the HTML page which calls GetUserId () at step S1504, acquires a Job list effective in the user, and corresponds at step S1505 -- step S1506 -- the -- it hides and the detail of Job is saved with a user to a field.

[0059] On the other hand, in a Logout demand, a remote device list investigates whether it is empty at step S1507, it is step S1510 at the time of empty, and it creates an OpeningScreen page according to the status. When it is not empty, it repeats logging in to the following device by login verb=Disconnect at step S1508, and deleting the device from a remote device list at step S1509 until a list becomes empty. That is, it logs out of all the devices under remote device list. An OpeningScreen page will be created if

a list becomes empty.

[0060] Login and logout -- in both cases, finally, the created page is transmitted to a client component and it finishes with step S1511.

[0061] Drawing 16 is a flow chart which shows the procedure of a server when the demands of a client are "Goto Other Device" and "Goto Desktop."

[0062] When a demand is Goto Other Device, a device name and a device address are acquired at step S1602. In Goto Desktop, the desktop address is acquired at step S1603. Then, the device is added to a remote device list at step S1604, and login verb is created at step S1605. When login verb is Device or Desktop, Print, Send, Delete, and Reschedule, at step S1607 by Login verb It logs in to a device. In Device or Desktop Step The HTML page of an opening screen is created by S1608, and they are Print, Send, Delete, and Reschedule. A case Step The HTML page of the screen of PrintJob, Send Job, Delete Job, and Reschedule Job is created by S1609, and 1610, 1611 and 1612, respectively. Moreover, when login verb is Disconnect, it logs out of a device at step S1613, and the device is deleted from a remote device list at step S1614, and it is a step. The HTML page of an opening screen is created by S1615. Finally, a page is transmitted to a client step component and it is finished with it as KUSUTEPPU S1616.

[0063] Drawing 17 is a flow chart which shows the procedure of a server when the demands of a client are "Search", "Help", and "Receive Job/ReceiveNotification."

[0064] In a Search demand, a retrieval parameter is acquired at step S1702, and a search is performed at step S1703. At step S1704, the HTML page of the activation result to a retrieval result is created. In a Help demand, the help screen HTML page which acquires a help context parameter at step S1705, and corresponds at step S1706 is created. Finally, at step S1707, in [both of] a demand, the created HTML page is transmitted to a client component, and they are completed.

[0065] In Receive Job/Notification, a data buffer is read at step S1708, and at step S1709, the class of demand passes IdAnalyzeNotify which will explain the buffer per drawing 20 to the IdAnalyze() function which will be explained per drawing 18 if it is Receive Job if it is Receive Notification, and is completed.

[0066] Drawing 18 is a flow chart which shows the procedure of IdAnalyze. Here, Job passed as line data from other devices is interpreted. In addition to DB, this Job is performed with a demon module.

[0067] First, a call and demarshal are performed for a Demarshal function at step S1801, and a buffer object is confirmed. Next, data become effective per line by developing by decoding compressed data using a UnformatData function at step S1802. A call and a message object are again confirmed for a Demarshal function at step S1803. The ReceiveJob function (DUMMY) finally later mentioned per drawing 19 at step S1804 is added to a call, and Job is added to DB.

[0068] Drawing 19 is a flow chart which shows the procedure of DUMMY. This module is the dummy of the ISAPI escape Receive module which receives the line buffer sent by SendJob. CGI application is passed.

[0069] These functions in the line buffer sent by SendJob at step S1901 are read in fact, and a temporary file is dumped at step S1902. This file name is passed to IDExtn.Exe of a CGI module at step S1903. This reads a file name at step S1904, and acquires data. In order to send data to CGI application at step S1905, this module uses internet client call.

[0070] Drawing 20 is a flow chart which shows the procedure of IdAnalyzeNotify. Notification passed as line data from other devices of the same kind is interpreted. This notification is added to processing and notification is performed with a demon module.

[0071] In fact, it is step S2001, and a call and demarshal are performed for a Demarshal function and a buffer object is confirmed. Data become effective per line by next developing by using compressed data and decoding a UnformatData function at step S2002. At step S2003, a call and a message object are again confirmed for a Demarshal function. Finally the RecieveHttpNotification function later mentioned per drawing 21 is added to a call at step S2004, and Job is added to DB.

[0072] Drawing 21 is a flow chart which shows the procedure of RecieveHttpNotification. A prototype is Void CIDAction::RecieveHttpNotification (poNotify).

[0073] This function is a function which receives notification sent by the HTTP protocol. Even if it is not supporting the notice approach by which the device was demanded, finally it can notify to the target device using a middle device.

[0074] At step S2101, the receiver name of Notification, and the address and the notice approach are investigated, and step S2102 investigates that this device functions as a midpoint which pass(es) notification to a device to receive notification and other devices.

[0075] When this device is the last purpose value, a temporary file is created at step S2103, and a notification message is written in into it at step S2104. Moreover, fixed file "pollfile" on a Windows directory (file which a demon poll(s)) is created and overwritten at step S2105. It notifies by the notice approach which specified the command line parameter of a notification module (module which displays or creates a message) in this file at step S2107, and was specified at step S2107.

[0076] If it checks whether there is any capacity to publish notification to this device and is in it at step S2108 when this device is a middle device, notification will be transmitted to the device specified by the specified approach at step S2110. When there is no capacity to publish notification in this device, notification is transmitted to other midpoints through a HTTP protocol at step S2112.

[0077] Drawing 22 is a flow chart which shows the procedure of a server when the demands of a client are "Print", "Send", "Delete", "Reschedule", and "Preview."

[0078] In these five demands, user ID, JobID, and ActionID are first acquired at step S2201.

[0079] In a Print demand, printing time of day and a location are acquired at step S2203, and a notification list is acquired at step S2204. A call print is performed for function PrintJob() at step S2205.

[0080] In a Send demand, transmitting time of day and a location are acquired at step S2206, and a notification list is acquired at step S2207. Call transmission is performed for function SendJob() at step S2208.

[0081] In a Delete demand, a CancelAction() function is called at step S2209, and Job is deleted.

[0082] In a Reschedule demand, a RescheduleAction function is called at step S2210, and a schedule change is made.

[0083] In a Preview demand, Job is changed into JPG or a GIF format using format conversion library at step S2211.

[0084] In all the above demands, at step S2212, a corresponding HTML page is created, and a HTML page is transmitted to a client component and it ends by step S2213.

[0085] Drawing 23 is a flow chart which shows the procedure of PrintJob. A prototype is void. CIDAction:P : It is rintJob (ActionId, NotifyList). An input parameter is a Notification setting list of ID of specified Action, and users, and prints Job with this device immediately now.

[0086] When ActionID is Print/Hold, the attributes (Print time of day, Notification, etc.) of Action are corrected to the present time of day and new Notification. When ActionID is Send, Action new in DB is created. This is dependent on whether other PrintAction(s) related to this Job which that user of this is Hold(ing) exist. After Job is printed, ActionStatus serves as "done" and this Action becomes a part of a user's History.

[0087] First, at step S2301, a record is pulled out and the detail of Action is checked. It confirms whether old Action is Hold(ed) at step S2302, and this information is saved at step S2303. JobData required for this Action at step S2304 is acquired. At step S2305, the entry in a database is corrected so that it may become "under printing." This is for a daemon module not to perform this record.

[0088] step S -- or [creating a new record by 2307 and 2308] -- or the existing record is corrected. For example, if front Action is Print/Hold, the record will be corrected, and if front Action is Send, a new record will be created when the user does not have PrintAction in Hold to the Job. new/old ActionID is returned (conditions are followed).

[0089] At step S2309, Notification Status is unconditionally set to False. At step S2310, notification is added to this newActionID and a user type is made into "Don't care" (that is, there is neither a transmitting person nor an addressee).

[0090] At step S2311, it is Spooler. In order to print using API Calls, Job is sent to a print queue.

"printing corrects success" or "termination", and an entry at step S2312. At step S2313, NotificationStatus is set according to ActionStatus of printing.

[0091] Drawing 24 is a flow chart which shows the procedure of SendJob. A prototype is Void CIDAction::SendJob (bsendjobToDatabase, ActionId, roJobMessage).

[0092] It is new Job to the specified receiver device list "existing" and which was Job(ed) or specified. It transmits. By transmission, one copy is sent to one device. In this case, the copy of Job will be shared when there are two or more receivers. Since all other receivers' information is also sent, it is also possible to access Job from other devices. Job is transmitted with a HTTP protocol.

[0093] In fact, it is step S2401 and Job in which ActionId exists, and new Job is checked. When ActionId exists, at step S2402, the attribute of Action is acquired and it is confirmed by step S2403 whether the Action type is Hold. When it is Hold Job, the information that Hold Job was accessed is stored at step S2404.

[0094] Next, when specified that this information goes to DB, all the information (a sender, receiver, etc.) concerning a call and Job in SendJob() is stored in DB at step S2406. Then, when checking [whether it transmits "now" and] time amount and not sending now at step S2407, it waits to end as it is and for a demon module to perform transmission. When sending now, at step S2408, transmission is performed and it ends.

[0095] Drawing 25 is a flow chart which shows the activation procedure of transmission by SendJob().

[0096] First, EditAction() is set to a call and ActionStatus is set to active. Next, the list of receivers is processed and a user name, a device name, and the URL address of a device are acquired. Format conversion is performed so that it may correspond to a receiver device. This is performed using a suitable image conversion library. Message data is changed into a sequence of bytes, and compression and coding are performed further. This data is transmitted using a HTTP protocol and ActionStatus is set as done. Furthermore, Action is added as a part of a user's history, and notification status is set to success/fail according to a transmitting situation. Job sets Status which shows that it is job accessed from Held List (step S 2501-2511).

[0097] Drawing 26 is a flow chart which shows the procedure of CancelJob. A prototype is Void CIDAction::CancelJob (dwActionId).

[0098] This function cancels specified Action. It is step S2601, and the attribute of Action is acquired, a CancelAction() function is read and, specifically, Action is marked with cancellation. When Action is in a Hold list, it adds to a part of a user's history at step S2603, and when having become a part of a user's history, an entry is deleted at step S2604. When Action is Hold, notification condition sets up with "Hold Job is accessed" at step S2606. When a user is a receiver on this device, in ending as it is and being on other devices, at step S2608, by step S2609, it is made to log in to this device, and the detail over Cancellation Action is set up, and in order to send this information to an actual device at step S2610, a SendJob() function is called, and it performs transmission. Cancellation of Action is performed by this.

[0099] Drawing 27 is a flow chart which shows the procedure of SendNotification. A prototype is Void CIDAction::SendNotification (dwActionId).

[0100] This function is a function which performs an actual notice. The type of notices, such as Popup, notifies by transmitting http. In a telephone or mail, it notifies by calling a suitable module. When the approach of twisting to support is specified, notification is transmitted to the specified middle device, and this function resent is performed only when nification must be transmitted to "now". In this case, NotificationStatus is set to Done and a demon module is made not to poll.

[0101] In fact, first, the notice approach is investigated at step S2701, at the time of popup window or voice message, the approach is transmitted at step S2703, and data are transmitted with a http protocol. When an approach investigates whether notice capacity is in the device at step S2705 at the times, such as a telephone, and there is the capacity, it notifies by the specified approach at step S2704. When there is no capacity in a device, a midpoint is investigated at step S2706. The mechanism of the specified issue is supported in this midpoint. At step S2707, the message and detail of a notice are transmitted to a middle device with a HTTP protocol. It can respond to e-mail, Fax, a pocket bell, etc. by this approach.

[0102] Drawing 28 is drawing showing the correspondence relation of the input and processing to a server. The processing corresponding to it is summarized.

[0103] Here, a control section 602 manages Print Job, Send Job, Cancel Job, Send Notification, and Receive HTTP Notification. the module which becomes main [this module / the back-end of a printer] -- it is -- "-- here Job is printed immediately now. " -- "-- here, Job is printed later. " -- "-- Job is printed immediately now in a different location. " -- "-- Job is printed later in a different location. " "now -- immediately -- or Job is transmitted to other devices later. " "schedule is changed. Action of" "Job is canceled. the type of the notice of" "is set up. (voice, a pop up window, a telephone, E-mail, Fax) the notice of" "is received. the status of" "device is acquired or set up. " -- ** -- said actuation is realized.

[0104] This module has covered and covered DB module in the form which becomes the modules (a GUI module, Daemon module, etc.) with which DB and its call use it with transparent.

[0105] Drawing 29 is a flow chart which shows the procedure from starting of a demon 105.

[0106] The demon module 105 polls DB and a file continuously, and performs Action and actuation which are registered so that it may perform later. An entry is created in DB in all these cases.

[0107] First, the thread which polls in an endless loop is created at step S2901, and Job which must be performed "now" is poll(ed). If Job (Action) is discovered in DB, the Action type will be investigated (step S 2902-2905).

[0108] When Action is Print, at step S2906, a PrintJob() function is called and printing is performed. When Action is Send, after creating a call and a message for ConstructSendMessage() at step S2908, a call and transmission are performed for a SendJob() function at step S2909.

[0109] When Action is Hold, a CancelJob() function is called at step S2907, and Job is canceled.

[0110] notification is investigated at step S2910 after these processings.

[0111] Drawing 30 is a flow chart which shows the Notification procedure of a demon module.

[0112] First, it investigates whether the notice which must be published from this device exists at step S3001 by calling function PollNotify(). When notification which should be published exists, at step S3002, a SendNotification() function is read and a notice is published. If there is no Notification, existence of an application file will be checked at step S3003.

[0113] When a file exists, after reading a command line parameter from this file, this file is deleted at step S3005. A ShowNotify.Exe module is started and a command line parameter is pass(ed).

[0114] Finally, in PullPrint, a PrintOcx .EXE file is started at step S3007, and, in Schedule, a DataDumo.Exe file is started at step S3008.

[0115] Drawing 31 is drawing showing the relation between the class of job which a demon treats, and corresponding processing.

[0116] Drawing 32 is a flow chart which shows the procedure of PrintPrinterJob. A prototype is Int PrintPrinterJob (pPrinterName, pDocumentName, pVoid, Bufsize).

[0117] This function is a function which prints that Job is spooled to the printer. The specified printer is opened in fact, it notifies that Job is spooled to the printer, data are written in the printer, and a printer is closed (step S 3201-3204).

[0118] Drawing 33 is a flow chart which shows the procedure of Sendjob.

[0119] At step S3301, it confirms whether to be the existing thing in whether the job sent is new and a database. When it is a new job, the detail is added to a database at step S3303. At step S3311, Sender and Receiver of a job are checked similarly. When they exist in a database, new Action is added to user ID at step S3312, and a new entry is added at step S3313 to what does not exist in a database.

[0120] When the existing job is sent, Action to Sender is checked. Action is Action when the status is Todo or Active in Send. A Whentodo time is changed into the new time amount by which JobMessage was created. At step S3313, when Action has already been performed by Send, new Action is added to a database. When Action is not Send, Action by which the entry was carried out to this job is created by the database.

[0121] In all cases, existence of Receiver of a job is checked, and a new entry is created when Receiver does not exist in a database. Action changes Action into Send, when ActionStatus is Todo in Hold, and it changes a WhenTodo time into the new time amount by which JobMessage was created. When

ActionStatus is not Todo, Action creates the new record which is Send and sets WhenToDoTime as the new time amount specified as JobMessage.

[0122] Drawing 34 is a flow chart which shows the procedure of ReceivejobData.

[0123] First, the check item of "Deny Jobs From Person/Device" is seen at step S3400, and, in the case of the job from the transmitting origin set up here, the reception of a job is refused at step S3417. This item is set up by the manager.

[0124] Drawing 134 is drawing showing the setting screen for a setup of refusal of a job. In this drawing, the identifier of the user who should refuse is set to "Deny Jobs From Person". The equipment which should be refused is set to "Deny Jobs From Device". Furthermore, it refuses so that it may explain in a setup of the instruction later mentioned per drawing 77.

[0125] You may make it set up an expiration date and the class of processing which should be refused. The check item set up as mentioned above is seen, authorization and the disapproval of the reception of Job from the user or equipment of a transmitting agency are judged, and reception processing will be performed if the permission is granted.

[0126] Two cases, the case where the job received is a new job, and when it is the existing job, are assumed.

[0127] When a new job is received, a new entry is added to the detail of a job at step S3402. When Sender does not exist, the entry of Sender is added at step S3404. Action and Notifications are similarly added at step S3405. When Sender exists, Notifications is added at step S3406. When Receiver does not exist, it adds at step S3408. Action of Receiver is also added at step S3409.

[0128] Receiver of a job is checked when the existing job is received. Receiver exists, when it has the same Action as having been received, the Action status of a front thing is considered as cancellation, and a record is created newly. When it has Action different from Action about Receiver having been received, a new entry is added about Receiver. Notifications is also added depending on the case. Except for the case where Usertype(s) differ, the Action status is set as Todo.

[0129] Drawing 35 is a flow chart which shows the procedure of GetListOfJobAttribute.

[0130] All the jobs of the user in the specified location are checked, and all the details of the user's job are returned. A job is two, Heldjobs or Historyjobs. A job is searched for every UserID, all jobs are taken up, and a database is added to a list. This list is returned (step S 3501-3507).

[0131] Drawing 36 is a flow chart which shows the procedure of PollJob.

[0132] A User type is Receiver and WhenToDo searches [ActionStatus] short ** with Todo rather than the present system time (step S 3601-3605). If Job exists, the detail of Job will be acquired, data will be set as ActionSet, and TRUE will be returned (step S 3606-3608). FALSE is returned when Job does not exist (step S3609).

[0133] Drawing 37 is a flow chart which shows the procedure of PollNotify.

[0134] WhetherToNotify searches [CanNotify] the first record with WhenToNotify shorter than the present system time with TRUE by TRUE (step S 3701-3705). When a record exists, the detail of notification is acquired, data are set as NotificationSet, and TRUE is returned (step S 3706-3708). FALSE is returned when a record does not exist (step S3709).

[0135] Drawing 38 is a flow chart which shows the procedure of CancelAction.

[0136] First, a record with specified ActionID is searched. If an applicable record exists, Job with the same ActionId will be searched and the size will be checked (step S 3801-3804). When the size is smaller than JobSizeLimit which a manager sets up, ActionStatus is investigated at step S3805. This ActionStatus is Done, or when the size of a job is more than JobSizeLimit, ActionStatus is changed into Deleted and that record is deleted (step S 3807-3808). When other, it is step S3806 and ActionStatus is considered as cancellation. And all Notification(s) corresponding to ActionID are deleted at step S3809.

[0137] Drawing 39 is a flow chart which shows the procedure of EditAction.

[0138] If a record with specified ActionID is searched and an applicable record is found, it will change into the parameter which received the Action status (step S 3901-3903).

[0139] Drawing 40 is a flow chart which shows the procedure of EditAction. A prototype differs from what was explained per drawing 39.

[0140] A record with specified ActionID is searched, and Action of an applicable record changes into the parameter which received the Action status, when the Action status is a hold in accordance with Action of ActionID (step S 4001-4006). When there is no applicable record, new Action is added at step S4004.

[0141] Drawing 41 is a flow chart which shows the procedure of RescheduleAction.

[0142] A record with specified ActionID is searched. An applicable record is found, and if Action Status is not done, it will change into NewTime which received WhenTodo (step S 4101-4104).

[0143] Drawing 42 is a flow chart which shows the procedure of RescheduleAction. A prototype differs from what was explained per drawing 41.

[0144] A record with specified ActionID is searched with step S4201. If an applicable record is found and UserType is in agreement, the Action status will be changed into cancellation and the new record whose Action status is Todo will be added (step S 4201-4204). Existence of a user is checked when an applicable record is not found. UserID is pick(ed) after adding a first time user, when pick UserID and not finding it, if a user is found. New Action which is in agreement with this UserID is added (step S 4206-4209).

[0145] Drawing 43 is drawing showing the procedure of RescheduleAction. A prototype differs from drawing 41 and the thing explained per 42.

[0146] A record with specified ActionID is searched. If an applicable record is found, the Action status and Action will be checked. Action is in agreement with ActionID, and, in a case unfinished by hold, the Action status changes a WhenTodo time into new time amount. All Notification(s) of ActionID are deleted and new Notification is added (step S4301- 4302, 4304-4308). When an applicable record is not found, at step S4303, the Action status adds new Action which is Todo, and changes a WhenTodo time into new time amount.

[0147] Drawing 44 is a flow chart which shows the procedure of AddNotification.

[0148] Notification A new record is added. The comprehensive information on a parameter (GeneratedFrom parameter) is checked, and the new entry about this is created.

[0149] Drawing 45 is a flow chart which shows the procedure of AddInstruction.

[0150] A setup of Instruction is stirred up when ReceieveJob or SendJob occurs. First, processing is ended, when existence of UserId specified on the database is checked and it does not exist at step S4501. When it exists, at step S4502, a record is acquired from an Instruction list and new instruction is added to this User by step S4503.

[0151] Instruction adds Instruction to the Instruction table of a database. related Action and Notification which Instruction was filled and was given -- an Action table -- and -- It is reflected in a Notification table (step S 4504-4506).

[0152] a Receive job and a Send job -- in the case of which, these are generated the time of Instruction being filled -- an Action table -- and -- As new on a Notification table as new Action The record which acts as a template which generates Notification is added.

[0153] Drawing 46 is a flow chart which shows the procedure of GetInstruction.

[0154] This function is called by ReceieveJobData and SendJobData. First, at step 4601, about all the records of an Instruction table, whether an Action type is Receive or Send checks, and it acquires all instructions of the specified Action type. It investigates [which can perform instruction at step S4602 by checking the detail in JobMessage (value set up as an instruction) using these values / or or] whether it can do. A check function (after-mentioned) is used for the check of the effectiveness of Instruction. If the Id is added to a list at step S4603 and processing is completed about all instructions at step S4603 when Instruction is effective, the list of effective InstructionId will be returned at the end.

[0155] Drawing 47 is a flow chart which shows the procedure of ExecutionInstruction. This function is called by ReceieveJobData and SendJobData. The record of an Action table and a Notification table is looked for. These records are performed according to each Instruction of an Instruction list, attach a todo flag (it sets to TRUE), and create the copy on each table (step S 4701-4708).

[0156] There is dummy action set by instruction or an Action table is searched. A suitable new record is added based on these dummy actions, and action is performed.

[0157] It searches whether there is dummy notification set by Instruction. A suitable new record is added based on these dummy notification, and notification is performed.

[0158] Drawing 89 is a flow chart which shows the procedure of ResetInstructions. A prototype is Void ResetInstructions (dwUserId, pInstructionList).

[0159] First, all instructions of specified UserId are searched and all Action(s) corresponding to the obtained instruction and its instruction and Notification(s) are deleted (step S 8901-8905). Then, the new instruction passed by the instruction list is added (step S8906).

[0160] Drawing 90 is a flow chart which shows DeleteAllInstructions procedure. A prototype is Void DeleteAllInstructions (dwUserId).

[0161] All instructions of specified UserId are searched and all Action(s) corresponding to the searched instruction and its instruction and Notification(s) are deleted (step S 9001-9005).

[0162] Drawing 91 is a flow chart which shows the procedure of DeleteInstructions. A prototype is Void DeleteInstructions (dwInstructionId).

[0163] The instruction of specified InstructionId is searched and Action corresponding to the searched instruction and its instruction and Notification are deleted (step S 9101-9104).

[0164] Drawing 92 is a flow chart which shows the procedure of GetInstructionDetails. A prototype is Void GetInstructionDetails (dwUserId).

[0165] The instruction of specified UserId is searched, and the detail of Action corresponding to the searched instruction and its instruction and Notification is made a list, and is returned (step S 9201-9208).

[0166] Drawing 93 is a flow chart which shows the procedure of Check. A prototype is Bool Check (nJobChk, JobNameConnector, nDeviceChk, DeviceConnector, nPersonChk, PersonConnector, nTimeChk, TimeConnector, nStatusChk, nStatusCode).

[0167] This function is called in GetInstructionIds(). It confirms whether it is possible and effective in activation of an instruction, and if effective, TRUE, otherwise, FALSE will be returned (step S 9301-9303).

[0168] Drawing 94 is a flow chart which shows the procedure of GetJobData. A prototype is Void GetJobData (dwJobId, poJobMessage).

[0169] Job of specified JobId is searched and the detail of Job is set as JobMessage (step S 9401-9403).

[0170] Drawing 95 is a flow chart which shows the procedure of GetJobAttributes. A prototype is Void GetJobAttributes (dwJobId, poJobMessage).

[0171] Job of specified JobId is searched and the detail of Job is set as JobMessage. Moreover, the detail of Action related to Sender of Job and the detail of Receiver is searched, and the detail is set as JobMessage (step S 9501-9505).

[0172] Drawing 96 is a flow chart which shows the procedure of GetActionAttributes. A prototype is Void GetActionAttributes (dwActionId, poActionMessage).

[0173] Action of specified ActionId is searched and the detail of Action is set as ActionMessage. Moreover, Sender of Job The user name of Receiver and the address are also set as ActionMessage of Sender and Receiver (step S 9601-9605).

[0174] Drawing 97 is a flow chart which shows the procedure of DeleteJob. A prototype is Void DeleteJob (dwUsrLd, dwJobId).

[0175] Action with specified JobId of specified UserId is searched with step S9701. If action exists, the type of ActionStatus will be checked at step S9703. If ActionStatus is Not Done, at step S9704, ActionStatus will be changed into ActionCancel and the execution time will be set as the present time of day.

[0176] When ActionStatus is already Done or Cancel, all Notification(s) related to the Action are deleted at step S9705. If there is nothing, it will confirm whether all Action(s) of specified UserId that have specified JobId at step S9707 are already Done or Canceled, it confirms whether there is Action of UserId(s) other than specified UserId which has specified JobId at step S9706, there is no Action of other users, and when all Action(s) are already Done or Canceled, this record of Job is deleted from a Job table at step S9708.

[0177] Drawing 98 is a flow chart which shows the procedure of GetNotificationList. A prototype is Void GetNotificationList (nGeneratedFrom, dwId).

[0178] All Notification(s) that are generated from the specified generation location (one of Action/Instruction(s)), and have specified Id are searched, the detail is added to a list, and a list is returned (step S 9801-9804).

[0179] Drawing 99 is a flow chart which shows the procedure of SetNotificationCondition. A prototype is Void SetNotificationCondition (nGeneratedFrom, dwId, nResult).

[0180] If Notification which is generated from the appointed location (nGenerateFrom) and has specified Id is searched and it is created with the specified value (nResult), WhetherToNotify will be set to FALSE if not created with the value specified as TRUE (step S 9901-9905).

[0181] Drawing 100 is a flow chart which shows the procedure of SetNotificationCondition. A prototype is Void SetNotificationCondition (nGeneratedFrom, dwId, bCanNotifyFlag, nDummy).

[0182] Notification with Assignment NotificationId generated from the appointed location is searched, and CanNotifyFlag is set to an assignment value (bCanNotifyFlag) (step S 10001-10003).

[0183] Drawing 101 is a flow chart which shows the procedure of SetNotificationStatus. A prototype is Void SetNotificationStatus (dwNotificationId, bNotificationStatus).

[0184] Notification with specified NotificationId is searched and Notification Status is set to an assignment value. (step S 10101-10103) . [0185] Drawing 102 is a flow chart which shows the procedure of ClearHistory. A prototype is Void ClearHistory().

[0186] First, Action Status is investigated and Action of Done, Cancelled, Ignored, and Deleted is searched with step S10201. About each of obtained Action(s), when Action Status is Job of Done, it is step S10204 and the execution time is checked. When other, it is step S10205 and WhenTodo time amount is checked. Step S10206 compares these time amount and maintenance time limit of hysteresis (History). The limit to such a job is set up by the manager. The example of the setting screen for it is shown in drawing 133. Here, it is set up in one month (1 Month). As a result of a comparison, when having passed more than the maintenance time limit since activation time of day or activation schedule time of day, Action and Job are deleted at step S10207.

[0187] Drawing 103 is a flow chart which shows the procedure of DeleteAllPublicInfoJobs. A prototype is Void DeleteAllPublicInfoJobs().

[0188] All PublicInfo Job is searched and ActionStatus is set to ActionCancel (step S 10304-10304).

[0189] Drawing 104 is a flow chart which shows the procedure of PrintPublicInfo. A prototype is Void PrintPublicInfo (dwActionId).

[0190] Action of specified ActionId is searched and it is confirmed whether there is PublicInfoJob or not. New Action is added when it exists. By PublicInfo, Action sets this Action as Action [as / the present time of day and whose ActionStatus Print and WhenTodo are Todo(es)] (step S 10401-10407).

[0191] Drawing 105 is a flow chart which shows the procedure of SearchData. A prototype is Void SearchData (dwUserId, poSearchData).

[0192] All the specified Job lists of users are acquired, and the detail and detail in a Search Data object are compared. If a detail matches, the node to a new list will be added and, finally a new list will be returned (step S 10501-10507).

[0193] Drawing 48 is a flow chart which shows the procedure to the demand of the client of the server component of a desktop.

[0194] A server component is step S4801, acquires the demand of a client and performs corresponding processing. When a demand is login, login verb and a remote device list are acquired first, and a user password is acquired (step S 4803-4804). The HTML page corresponding to a user is created after that, a user password is saved, it transmits to a client component, and processing is finished (step S4805-4806 4814).

[0195] In a Print a File demand, a user password and the file name to print are acquired. The file of the file name specified to the file for printing whose call and this application use external application is printed. This print file for an output is changed into a message object, and Job is transmitted to the device which a remote device begins. The HTML page corresponding to the last is created, it transmits

to a client component, and processing is finished (step S4807- 4813 4814). When the demands of a client are "Read a Mail" and "Print a Mail", it mentions later per drawing 49. When the demands of a client are "View Schedule" and "Print Schedule", it mentions later per drawing 50. When the demand of a client is "Goto Other Device", it mentions later per drawing 51. When the demands of a client are "logout" and "help", it mentions later per drawing 52.

[0196] Drawing 49 is a flow chart which shows the procedure of the demand about e-mail. This is a procedure when the demands of a client are "Read a Mail" and "Print a Mail."

[0197] When a demand is Read a Mail, the user password of a mail server is acquired first and the session of e-mail is opened. A session is closed after reading the specified mail (step S 4902-4905).

[0198] After writing out e-mail to a file after performing the same processing as a Read a Mail demand in a Print a Mail demand, and creating a Job message, Job is transmitted to the device of the beginning of a remote device list (step S 4906-4912).

[0199] The HTML page corresponding to the last is created in both cases, and the created page is transmitted to a client component and it finishes (step S 4913-4914).

[0200] Drawing 50 is a flow chart which shows the procedure of the demand about a schedule. The demand of a client expresses the procedure of the desk server at the time of being "View Schedule" and "Print Schedule."

[0201] When there is a demand View Schedule, the type of a schedule investigates Daily or Monthly and acquires schedule data (step S 5002-5003). When a demand is Print Schedule, after performing the same processing as the above, data are written out to the file for printing, a Job message is created, and Job is transmitted to the device of the beginning of a remote device list (step S 5004-5009).

[0202] The HTML page which corresponds in both cases is created, the page is transmitted to a client component, and processing is finished (step S 5010-5011).

[0203] Drawing 51 is a flow chart which shows the procedure of the demand about other devices. The demand of a client expresses the procedure of the server of the desk at the time of being "Goto Other Device."

[0204] When a demand is Goto Other Device, a device name and a device address are acquired. Then, the device is added to a remote device list, and login verb is created (step S 5102-5104). By Login verb, it logs in to a device and a corresponding HTML page is created, and finally, a page is transmitted to a client component and it finishes with it. This processing is the same as that of what was explained per drawing 16.

[0205] Drawing 52 is a flow chart which shows the procedure of the demand about a log out and a help. The demand of a client expresses the procedure of the server of the desk at the time of being "logout" and "help."

[0206] In a Logout demand, a remote device list investigates whether it is empty at step S5202, it is step S5205 at the time of empty, and it creates an OpeningScreen page according to the status. When it is not empty, it repeats logging in to the following device by login verb=Disconnect at step S5203, and deleting the device from a remote device list at step S5204 until a list becomes empty. That is, it logs out of all the devices under remote device list. If a list becomes empty, an OpeningScreen page will be created at step S5205.

[0207] In a Help demand, a help context parameter is acquired and a corresponding help screen HTML page is created (step S 5206-5207).

[0208] The HTML page created in both cases is transmitted to a client component, and processing is finished.

[0209] Drawing 53 is a flow chart which shows the procedure from an initial menu screen. The example of a screen of an initial menu is shown in drawing 106. Here, when a job is in a print queue, it is indicated by list on a status screen. A job name and a transmitting person are displayed as information on each job.

[0210] With an initial menu, a user chooses the item for which he wishes at step S5301. Selections are distinguished and a new screen is expressed as step S5302 according to the item.

[0211] First, if the item "new interaction (new actuation)" is chosen, in step S5303, it will progress to

the new processing (log in processing) later mentioned per drawing 55, and a screen will change to a "log in" screen (drawing 112).

[0212] If the item "Print URL (printing of URL)" is chosen, a screen will change to "printing of URL" screen (drawing 107). In step S5311, if URL is specified by the direct input or reference and "Go" is chosen, information will be acquired and previewed at step S5312. The checked contents are printed at step S5313. It returns to an "initial menu" screen after that.

[0213] If the item "Public Info (public information)" is chosen, in step S5314, it will progress to the processing of public information later mentioned per drawing 54, and a screen will change to "processing of public information" screen (drawing 110).

[0214] Selection of the item "Goto Device (other devices)" displays the setting screen (drawing 81) for accessing other devices in step S5315. Henceforth, processing in "Device" of the processing accessed to other devices explained per drawing 51 is performed.

[0215] Moreover, the job of a print queue can be chosen in this initial screen. In order to choose a job, the carbon button displayed before the desired job name is touched. Thus, selection of "specific Job" displays a password input screen (drawing 108) in step S5304. Here, if in agreement with the password which entered the password and was attached to selected Job, the setting screen (drawing 109) of processing to the job chosen within the print queue will be displayed.

[0216] Then, selection of Action to Job is performed in step S5305, and the time amount about action is set up at step S5306. A printing stage can be set up when "printing later (Print Later)" is chosen as action. Here, a printing stage can be set up like [of "after / 1 hour after (After 1 Hour) / "] also in the relative time by the elapsed time from a setting point in time while being able to set it up by concrete time (absolutely time). For this setup, an item like [of ""1 hour 2 hours, and 6 hours after"", "tomorrow", the "day after tomorrow", and after / "one week and two weeks after" / "after"] is prepared as a menu, and it enables it to choose from them. Moreover, when setting up in absolute time, the date makes a current date a default, and when choosing other dates, a calendar is popped up, and the corresponding date is touched and it inputs into it. Furthermore, if required, time of day will be changed from current time.

[0217] A hold period is set up when "a hold (Hold Here)" is chosen. Like the case where it prints also in this case later, while being able to specify a hold term in time absolutely, it can be made to carry out menu selection of a setup like the period to suspend, for example, 1 hour, (For 1 Hour). Moreover, in the assignment at the time of the above absolute time and phase anti-Japan, a touch keyboard may be displayed, a direct numeric value may be inputted, it responds to the count of directions of a specific carbon button, and indicated value may be made to be counted up and downed.

[0218] The item of action chosen and set up as mentioned above or time is followed, and Action is set up and performed. First, if "printing later" is chosen, at step S5308, a print job will be deleted from a queue, will be registered into the list of hold jobs with printing time of day, and will return to an "initial menu" screen. Then, printing will be performed if setting time of day comes.

[0219] Moreover, if "a hold" is chosen, at step S5309, a print job will be deleted from a queue, a hold will be set up as action with a hold term, and it will register with the list of hold jobs, and will return to an "initial menu" screen. Then, during a hold period, Job will be canceled, if it is suspended and nothing will be done by the term.

[0220] Moreover, if "a pause (Pause/Restart Printing)" is chosen, at step S5310, printing will be suspended and it will wait for return and that as which "a restart (Pause/Restart Printing)" is chosen later (the re-depression of the same carbon button is carried out) to an "initial menu" screen. If "printing cancellation (Cancel Printing)" is chosen, a print job will be deleted from a queue, "cancellation" will be recorded on hysteresis as action of this job, and it will return to an "initial menu" screen.

[0221] Drawing 54 is a flow chart which shows the procedure of public information. Screen transition when "processing of public information" item is chosen in an initial menu, and the flow of processing are shown. First, the list of the public information on this printer is expressed as step S5401. Drawing 110 is drawing showing the example which displayed the processing setting screen of public information with the list of such public information. Information (job with action called public

presentation) with the attribute of public information is displayed on this list, and it can be printed without a password.

[0222] When a specific job is chosen from a list at step S5402, processing to the job progressed and chosen as step S5405 is performed. "-- others -- from (From Other Device) a device -- " -- when it chooses, in order to process the public information in other devices, it progresses to step S5415.

[0223] The processing to the selected job is chosen at step S5405. When "printing" is chosen, the printing location explained in full detail per printing processing of the usual job later and printing of public information which performed a setup of printing time of day if, and was chosen at step S5408 are performed at step S5407. When "a preview" is chosen, a preview is performed at step S5409 and the next processing is chosen at step S5410.

[0224] When "an addition (Make Job As PublicInfo.On Other Device)" is chosen by step S5406 or S5410, in order to release the selected information on other devices, the device for opening to the public is specified, and a setup which adds the selected public information to the open list of the device is performed. Drawing 111 is drawing showing the example of the setting screen for releasing information on other devices.

[0225] At step S5412, as an addition place, the address and the device name of a device are set up, further, it opens to the public till when, or a open term is set up. Also in this case, as mentioned above, a open term may be absolutely set up in time and the open period from this time may be set up. Moreover, if you do not want to open to the public immediately, the time which starts public presentation may be set up. A relative setup like [of "one week after"] also in this case is also possible. What is necessary is to check the set-up period and just to make the thing outside a period into the outside of an object, in case the list of public information is displayed, in order to restrict an open period. Moreover, a list is checked periodically and you may make it delete that over which the period passed from a list.

[0226] On the other hand, at step S5415, in order to access other devices, as already stated, the setting screen (drawing 81) for accessing other devices is displayed, and the address and the identifier of a device are specified and are accessed. A public information list is acquired and expressed as step S5416 from the accessed equipment. Henceforth, processing is performed like the equipment in self-equipment.

[0227] Drawing 55 is a flow chart which shows log in procedure. It is processing at the time of being chosen when new processing was performed in the initial menu. First, if a "log in" screen (drawing 112) is displayed, a user's inputted identifier is checked and a log in is permitted at step S5501, it will be confirmed whether there is any job (suspended job by which processing is not performed) effective in the user who logged in now at step S5502. If there is a job, it will progress to the processing which displays the list of the job (drawing 113), chooses the job later mentioned per drawing 56, and performs action at step S5504. If there is no job, at step S5503, a main menu (drawing 121) will be displayed and it will progress to the processing later mentioned per drawing 64 from a main menu.

[0228] Drawing 56 is a flow chart which shows the procedure which chooses a job and performs action. It is processing in case effective Job exists to the user at the time of a user's log in. The list of jobs with which the user was suspended is expressed as step S5601. Drawing 113 is drawing showing the example of the list of suspended jobs.

[0229] Here, there are a job by which printing is planned in the set-up time, a job by which transmission is planned in the set-up time, and a job only held to the set-up time (canceled if nothing will be done by the time that time comes) as job suspended. The time of a job name, a transmitting person or an addressee, the class (printing, transmission, maintenance) of action, and the activation scheduled day of action etc. is displayed on a list. It indicates that a color is changed or these jobs attach a different mark according to the class of action etc. in a display mode with an identifiable class. In addition, the executed job and the job by which activation was canceled are also recorded on equipment as hysteresis by changing the status into "it is executed" and "cancellation", and these can also be displayed on a list with the job before activation if needed. In that case, a display mode shall be changed also by the status.

[0230] Next, the processing (action) to the job which chose the target job at step S5602, and was chosen at step S5603 is chosen. At step S5603, when a main menu is chosen, it progresses to step S5605 and

processing from a main menu later mentioned per drawing 64 is performed. When retrieval is chosen, it progresses to step S5606 and retrieval processing later mentioned per drawing 65 is performed. When printing is chosen, it progresses to step S5607 and printing processing of the selection Job later mentioned per drawing 60 is performed. When transmission is chosen, it progresses to step S5610 and transmitting processing of the selection Job later mentioned per drawing 62 is performed. When a preview is chosen, it progresses to step S5608 and preview processing of the selection Job later mentioned per drawing 57 is performed. When deletion is chosen, it progresses to step S5609 and deletion of the selection Job later mentioned per drawing 58 is performed. When a schedule is chosen, it progresses to step S5611 and schedule modification processing of the selection Job later mentioned per drawing 59 is performed. When a log out is chosen, it progresses to step S5612 and log out processing explained per drawing 52 is performed.

[0231] Drawing 57 is a flow chart which shows the preview procedure of Selection Job. The flow of the processing at the time of performing a preview is expressed to Job chosen from the effective list of Job. The preview of the selected job is performed at step S5701. Drawing 114 is drawing showing the example of a screen display of a preview of a job. The processing to the selected job is chosen at step S5702.

[0232] At step S5702, when printing is chosen, it progresses to step S5704 and printing processing of the selection Job later mentioned per drawing 60 is performed. When transmission is chosen, it progresses to step S5706 and transmitting processing of the selection Job later mentioned per drawing 62 is performed. When deletion is chosen, it progresses to step S5705 and deletion of the selection Job later mentioned per drawing 58 is performed. When a schedule is chosen, it progresses to step S5707 and schedule modification processing of the selection Job later mentioned per drawing 59 is performed. When cancellation is chosen, it progresses to step S5708 and returns to the list display of Job explained per drawing 56.

[0233] Drawing 58 is a flow chart which shows the deletion procedure of Selection Job. The flow of processing in the case of deleting to Job chosen from the effective list of Job is shown. First, at step S58001, a job is previewed with the identification information of the job deleted, and the check of deletion is demanded from a user. Drawing 115 is drawing showing the check screen of deletion. Here, if deletion is chosen, deletion of a job will be performed at step S5802. Processing explained per drawing 97 is performed at this time. Here, since the selected job is chosen from the list of jobs suspended, the action status has not performed, and the deleted job serves as the status called cancellation, and is recorded as a user's hysteresis. Then, it progresses to step S5803 and returns to the list display of Job explained per drawing 56.

[0234] Drawing 59 is a flow chart which shows the schedule modification procedure of Selection Job. The flow of processing in the case of changing a schedule to Job chosen from the effective list of Job is shown. The current schedule used as the candidate for modification is expressed as step S5901. Drawing 116 is drawing showing the setting screen for modification of a schedule. A schedule is changed at step S5902. Then, it progresses to step S5903 and returns to the list display of Job explained per drawing 56.

[0235] Drawing 60 is a flow chart which shows the printing procedure of Selection Job. The flow of processing in the case of printing to Job chosen from the effective list of Job is shown. At step S6001, the type of action of a selection job from the first is distinguished. When action from the first is printing, printing setting modification processing later mentioned per drawing 61 is performed. When action from the first is not printing, it is step S6002 and a printing setting menu is displayed. Drawing 117 is drawing showing the example of a printing setting menu. As a setting item, it prints where, or (are they this equipment or another equipment?), in the case of another equipment, when it prints occurs [that device name and address, and].

[0236] When printing with another equipment, transmission is recorded as a class of action in the hysteresis of a job. Moreover, in case it prints with another equipment, you may transmit by the Sendo method later mentioned per transmitting processing, and may make it transmit with a transfer system.

[0237] Processing is chosen at step S6003. When printing is chosen, it is step S6005, and printing is performed, when setting a user's contents of a setting as equipment and printing them immediately.

Then, it progresses to step S6006 and returns to the list display of Job explained per drawing 56. When a preview is chosen, a preview is performed at step S6007, and if printing is required, it will progress to step S6005 after that. When a notice is chosen, a notice is set up at step S6009 and it returns to a printing setting menu. Drawing 118 is drawing showing the example of a notice setting screen. As a setting item of a notice, there is time amount until it actually notifies from a notice partner's person name, a notice medium (a voice message, a pop up window, an electronic mail, a telephone, FAX, pocket bell), notice places (address, telephone number, etc.), the opportunity (at the time [At the time / At the time of a success / of failure] of access) of a notice, and the opportunity of a notice etc. Moreover, on this screen, the list display of the notice which included the contents of a setting about each notice can be performed.

[0238] Drawing 61 is a flow chart which shows the modification procedure of a printing setup of Selection Job. A state transition in case an Action type with selected Job from the first to Job is printing, and the flow of processing are shown.

[0239] A printing setting modification menu is expressed as step S6101. Drawing 119 is drawing showing the example of a printing setting modification menu. The processing to a job is chosen at step S6102. When "also printing this time (Print Now Also)" is chosen, apart from a selection job, the job which made the printing stage of a selection job this time is added at step S6104. When "printing at present (Print Now)" is chosen, the printing stage of a selection job is changed into this time. Therefore, printing is performed at present in these cases. When a "schedule" is chosen, the schedule modification menu of drawing 116 is expressed as step S6106. At step S6107, a printing schedule is changed using a menu. In any case, it progresses to step S6108 continuously, and it returns to the list display of Job explained per drawing 56.

[0240] Drawing 62 is a flow chart which shows the transmitting procedure of Selection Job. The state transition in the case of transmitting to Job chosen from the effective Job list and the flow of processing are shown. At step S6201, the type of action of a selection job from the first is distinguished. When action from the first is transmission, transmitting setting modification processing later mentioned per drawing 63 is performed. When action from the first is not printing, it is step S6202 and a transmitting setting menu is displayed. Drawing 70 is drawing showing the example of a transmitting setting menu.

[0241] At step S6203, it sets up and processing is chosen. It sets up about a transmission place and a transmitting stage. These setup is the same as that of the case of printing. When transmission (Send) is chosen as processing, the selected job is copied and transmitted at step S6205. In this case, the selected job remains in the list of jobs. On the other hand, when a transfer (Transfer) is chosen as processing, at step S6206, the selected job is transmitted and the selected job is deleted from the list of jobs. In any [of transmission and a transfer] case, it progresses to step S6209 continuously, and it returns to the list display of Job explained per drawing 56. Moreover, when a notice is chosen, it sets up by displaying the setting screen of a notice at step S6207. It returns to the display of a transmitting setting menu for selection of transmission and a transfer after a setup.

[0242] Drawing 63 is a flow chart which shows the modification procedure of a transmitting setup of Selection Job. This shows a state transition in case the Action type of selected Job from the first is transmission, and the flow of processing.

[0243] A transmitting setting modification menu is expressed as step S6301. Drawing 71 is drawing showing the example of a transmitting setting modification menu. The processing to a job is chosen at step S6302. When "this time also transmitting (Send Now Also)" is chosen, apart from a selection job, the job which made the transmitting stage of a selection job this time is added at step S6304. When "transmitting at present (Send Now)" is chosen, the transmitting stage of a selection job is changed into this time. Therefore, transmission is performed at present in these cases. When a "schedule" is chosen, the schedule modification menu of drawing 116 is expressed as step S6106. At step S6307, a transmitting schedule is changed using a menu. In any case, it progresses to step S6308 continuously, and it returns to the list display of Job explained per drawing 56. Moreover, when "correction (Modify)" is chosen, a correction menu is expressed as step S6309.

[0244] Drawing 120 is drawing showing the example of a correction menu. A list indication of the

transmission place is given at this time. At step S6310, new addition and setup of a transmission place, correction (deletion, modification) of the transmission place chosen from the list, modification of the processing which should be performed at a transmission place, modification of a password, a change of a transmitting stage, etc. are made. When setting up a notice, it sets up by expressing a notice setting menu as step S6312, and returns to a correction menu. When not setting up a notice, it returns to a transmitting setting modification menu.

[0245] Drawing 64 is a flow chart which shows the procedure from a main menu. This shows the screen transition by the main menu, and the flow of processing. A main menu is expressed as step S6401. Drawing 121 is drawing showing the example of a main menu. Processing (action) is chosen at step S6402.

[0246] At step S6402, when a log out is chosen, it progresses to step S6404 and log out processing explained per drawing 52 is performed. When a help is chosen, it progresses to step S6405 and the help processor explained per drawing 52 is performed. When retrieval is chosen, it progresses to step S6406 and retrieval processing later mentioned per drawing 65 is performed. When printing is chosen, it progresses to step S6407 and printing processing later mentioned per drawing 67 is performed. When transmission is chosen, it progresses to step S6408 and transmitting processing later mentioned per drawing 69 is performed. When deletion is chosen, it progresses to step S6409 and deletion later mentioned per drawing 75 is performed. When a setup of an instruction is chosen, it progresses to step S6410 and setting processing of the instruction later mentioned per drawing 77 is performed. When a schedule is chosen, it progresses to step S6411 and schedule modification processing later mentioned per drawing 78 is performed. When the addition of public information is chosen, it progresses to step S6412 and additional processing of public information later mentioned per drawing 66 is performed. When other devices are chosen, it progresses to step S6413 and access processing to other devices later mentioned per drawing 80 is performed. When a desktop is chosen, it progresses to step S6414 and access processing to the desktop later mentioned per drawing 80 is performed.

[0247] Drawing 65 is a flow chart which shows retrieval procedure. This shows the flow of processing when "retrieval" is chosen from a main menu.

[0248] The retrieval conditions for searching a job with step S6501 are set up. Retrieval conditions can use the setting stage of a job, an activation stage, a running state, a transmitting person, etc., and, as for retrieval, in addition to the job under hold, the job in executed hysteresis is also applicable. hysteresis can be displayed if it searches especially that a running state is executed [cancellation if required --] as conditions. A search is performed at step S6502 and the list of retrieval results is displayed. At step S6503, the processing to the job which chose the job and was chosen from the retrieval result at step S6504 is chosen.

[0249] At step S6504, when printing is chosen, it progresses to step S6506 and printing processing of Selection Job in which it explained per drawing 60 is performed. When transmission is chosen, it progresses to step S6509 and transmitting processing of Selection Job in which it explained per drawing 62 is performed. When a preview is chosen, it progresses to step S6507 and preview processing of Selection Job in which it explained per drawing 57 is performed. When deletion is chosen, it progresses to step S6508 and deletion of the selection Job explained per drawing 58 is performed. When a schedule is chosen, it progresses to step S6510 and schedule modification processing of Selection Job in which it explained per drawing 59 is performed. When a main menu is chosen, it progresses to step S6511 and processing from the main menu explained per drawing 64 is performed.

[0250] Drawing 66 is a flow chart which shows the additional procedure to public information. This shows the flow of the processing at the time of choosing "an addition to public information." The job made into public information is chosen from the list of jobs at step S6601. At step S6602, the additional menu (drawing 111) to public information is displayed, and a setup of an addition place and a open term is performed. This detail is the same as that of what was explained by processing of public information. However, the object to exhibit is a job under job list of users here. After a setup, at step S6603, if an addition is directed, it will be added to the list of the public information which the selected job set up by step S6605. After termination of processing, if cancellation is chosen, it will return to a main menu.

[0251] Drawing 67 is a flow chart which shows printing procedure. This shows the flow of the processing at the time of choosing "printing" from a main menu.

[0252] A location with the job for printing is chosen at step S6701. Drawing 122 is drawing showing the example of the menu screen for choosing a location with the job for printing. When a current device is chosen, the list of printings Job of a current device is expressed as step S6703. Drawing 123 is drawing showing the example of the menu for choosing the job for printing. The job to print is chosen at step S6704. Printing of a selection job is set up at step S6705. This is the same as that of what was explained per drawing 60.

[0253] As a location with a job, when other devices or desktops are chosen, the address of a device is specified at step S6706, and a log in screen is downloaded from the device of the address at step S6707. At step S6708, a log in is performed according to this screen. If a log in is possible, since log in verb will be printing, as explained per drawing 51, at step S6710, the menu screen for choosing the job for [of drawing 122] printing downloads, and a printing device is chosen here. When printing by the present printer, it progresses to step S6711 and remote print processing by the printer explained per drawing 68 is performed. When printing by the desktop, it progresses to step S6712 and remote print processing by the desktop is performed. When printing with other devices, it progresses to step S6713 and remote print processing by other devices is performed.

[0254] Drawing 68 is a flow chart which shows the remote print procedure by the printer. Printing with other devices is specified from a main menu, and the flow of the processing after a log in when the device is a printer of the same kind is shown. The procedure of processing is the same as that of printing of the job on a current device. However, a menu and a list are downloaded from the equipment of an access place.

[0255] Drawing 69 is a flow chart which shows transmitting procedure. This shows the screen transition at the time of choosing "transmission" from a main menu, and the flow of processing.

[0256] At step S6901, the location with the job for transmission chooses this device, other devices, or a desktop. Drawing 124 is drawing showing the example of the menu screen for choosing a location with the job for transmission. When this device is chosen, the list of jobs on a device is expressed as step S6902. Drawing 125 is drawing showing the example of the menu for choosing the job for transmission. The job made applicable to transmitting is chosen at step S6903. Henceforth, transmitting processing of a selection job in which it explained per drawing 62 is performed.

[0257] As a location with the job for transmission, when other devices or desktops are chosen, the address of a device is specified at step S6904, and a log in screen is downloaded from the device of the address at step S6905. At step S6906, a log in is performed according to this screen. If a log in is possible, since log in verb will be transmission, as explained per drawing 51, at step S6908, the menu screen for choosing the job for [of drawing 124] transmission downloads, and a transmitting device is chosen here. When transmitting from a printer, it progresses to step S6909 and remote SENDO processing by the printer explained per drawing 72 is performed. When transmitting from a desktop, it progresses to step S6910 and remote SENDO processing by the desktop is performed. When transmitting from other devices, it progresses to step S6911 and remote SENDO processing from other devices is performed.

[0258] Drawing 72 is a flow chart which shows the remote SENDO procedure by the printer. The transmission from other devices is specified from a main menu, and the flow of the processing after a log in when the device is a printer of the same kind is shown.

[0259] When a job exists on the device, the list of transmitting jobs is expressed as step S7202. At step S7203, the job transmitted from the list of jobs is chosen. Processing is chosen at step S7204. Here, when transmitting processing is chosen, transmitting processing of a selection job is performed. The procedure of this processing is the same as that of transmission of the selection job on the present device explained per drawing 69. However, a menu and a list are downloaded from the equipment of an access place.

[0260] When retrieval is chosen at step S7204, the job for transmission is newly searched with step S7206. When a log out is chosen, it progresses to step S7207 and log out processing explained per

drawing 52 is performed. When a main menu is chosen, it returns to the display of a main menu at step S7208.

[0261] Drawing 75 is a flow chart which shows a deletion procedure. This shows the flow of the processing at the time of choosing deletion from a main menu.

[0262] At step S7501, the location with the job for deletion chooses this device, other devices, or a desktop. Drawing 73 is drawing showing the example of the menu for choosing the equipment with which Job to delete exists. When this device is chosen, the list of jobs on a device is expressed as step S7502. Drawing 74 is drawing showing the example of the list of deletion Job. The job made applicable to transmitting is chosen at step S7503. Henceforth, deletion of the selection job explained per drawing 58 is performed.

[0263] As a location with the job for deletion, when other devices or desktops are chosen, the address of a device is specified at step S7505, and a log in screen is downloaded from the device of the address at step S7506. At step S7507, a log in is performed according to this screen. If a log in is possible, since log in verb will be deletion, as explained per drawing 51, at step S7509, the menu screen for choosing the job for [of drawing 74] deletion downloads, and a job is chosen here. When deleting from a printer, it progresses to step S7510 and remote deletion processing by the printer explained per drawing 76 is performed. When deleting from a desktop, it progresses to step S7511 and remote deletion processing by the desktop is performed. When deleting from other devices, it progresses to step S7512 and remote deletion processing from other devices is performed.

[0264] Drawing 76 is a flow chart which shows the remote deletion procedure by the printer. The transmission from other devices is specified from a main menu, and the flow of the processing after a log in when the device is a printer of the same kind is shown.

[0265] When a job exists on the device, the list of jobs is expressed as step S7601. At step S7602, the job deleted from the list of jobs is chosen. Processing is chosen at step S7603. Here, when deletion is chosen, it is step S7605, and the deletion check menu of drawing 115 is displayed, it is step S7606 and deletion of a selection job is performed. The procedure of this processing is the same as that of deletion of the selection job on the present device explained per drawing 58. However, a menu and a list are downloaded from the equipment of an access place.

[0266] When retrieval is chosen at step S7604, the job for deletion is newly searched with step S7607. When a log out is chosen, it progresses to step S7608 and log out processing explained per drawing 52 is performed. When a main menu is chosen, it returns to the display of a main menu at step S7609.

[0267] Drawing 77 is a flow chart which shows the setting procedure of an instruction. This shows the flow of the screen transition at the time of choosing a setup of an instruction from a main menu, and processing. An instruction setting screen is expressed as step S7701. Drawing 126 is drawing showing the example of an instruction setting screen. Here, the execution condition of an instruction is set up. As conditions, the condition of a job name, a device name, a user name, the situation used as the opportunity of activation of an instruction, the expiration date of instructions (at the at the time of printing during transmission modification of the status etc.) or a period (an unlimited period is included), and a printer is established, and such AND, OR, etc. can be set up. [At the time of reception of a job] The current contents of a setting are displayed like "On receiving jobs from others" shown in drawing 126.

[0268] Processing is chosen at step S7702. Here, selection of "a setup (Take Action) of action" sets up action which should be performed when the conditions progressed and set to step S7704 are fulfilled. Here, printing of a job and a hold can be set up. Furthermore, transmission (transfer) of a job, cancellation, etc. set up. Selection of a notice sets up a notice at step S7705. If a setup of an instruction is chosen, the instruction set up on the screen will become effective. Selection of deletion of an instruction deletes the instruction for [on a screen] a setup. Then, it returns to a main menu at step S7707. The instruction which passed over the expiration date remains in hysteresis as well as an executed job, and in management of hysteresis, if a fixed period passes further from a term, it will be deleted.

[0269] Drawing 78 is a flow chart which shows schedule modification procedure. This shows the flow

of the processing at the time of choosing modification of a schedule from a main menu.

[0270] The location which has a job for modification by displaying the modification screen of a schedule at step S7801 chooses this device, other devices, or a desktop. Drawing 127 is drawing showing the example of the menu for choosing the equipment with which Job to change exists. When a current device is chosen, the list of jobs on a device is expressed as step S7803. Drawing 128 is drawing showing the example of the selection screen for [of a schedule / Job] modification. The job made applicable to modification is chosen at step S7804. At step S7805, the schedule of a selection job explained per drawing 59 is changed.

[0271] As a location with the job for modification, when other devices or desktops are chosen, the address of a device is specified at step S7806, and a log in screen is downloaded from the device of the address at step S7807. At step S7808, a log in is performed according to this screen. If a log in is possible, since log in verb will be modification of a schedule, as explained per drawing 51, at step S7810, the menu screen for choosing the job for [of drawing 128] schedule modification downloads, and a job is chosen here. remote one by the printer which progresses to step S7811 and is explained per drawing 79 when changing the schedule of a printer -- rescheduling -- joule processing is performed. remote one progress to step S7812 and according to a desktop when changing the schedule of a desktop -- rescheduling -- joule processing is performed.

[0272] drawing 79 -- remote one -- rescheduling -- it is the flow chart which shows joule processing procedure. The flow of processing at the time of choosing schedule modification of Job of other devices (printer of the same kind) from a main menu is shown.

[0273] When a job exists on a device, the full list of a job is expressed as step S7902. Processing is chosen at step S7903. Here, when a job is chosen and modification processing of a schedule is chosen, it is step S7905, and the modification menu of the schedule of the selection job of drawing 116 is displayed, and modification processing of the schedule of a selection job is performed. The procedure of this processing is the same as that of modification of the schedule of the selection job on the present device explained per drawing 59. However, a menu and a list are downloaded from the equipment of an access place.

[0274] When retrieval is chosen at step S7904, the job for modification of a schedule is newly searched with step S7906. When a log out is chosen, it progresses to step S7907 and log out processing explained per drawing 52 is performed. When a main menu is chosen, it returns to the display of a main menu at step S7908.

[0275] Drawing 80 is a flow chart which shows the access procedure to other devices. This shows the flow of processing at the time of choosing access to other devices [main menu], or access to a desktop. The address of a device is specified at step S8001, and a log in screen is downloaded from the device of the address at step S8002. At step S8003, a log in is performed according to this screen. If a log in is possible, since log in verb will be a device, as explained per drawing 51, at step S8005, the initial menu screen of drawing 106 downloads and the device for actuation is distinguished. When the candidate for actuation is a printer, it progresses to step S8006 and other printers as well as a self-printer are processed. When the candidate for actuation is a desktop, it progresses to step S8007 and the desktop later mentioned per drawing 82 is processed. When the candidates for actuation are other devices, it progresses to step S8008 and other devices are processed.

[0276] Drawing 82 is a flow chart which shows the procedure of a desktop. Screen transition of the initial screen when choosing its own desk from a main menu by Goto My Desktop and the flow of processing are shown. First, a main menu is expressed as step S8201. Drawing 129 is drawing showing the example of a desktop main menu. Processing (action) is chosen at step S8202.

[0277] At step S8202, when a file printout is chosen, it progresses to step S8204 and file printout processing later mentioned per drawing 88 is performed. When unread mail acquisition is chosen, it progresses to step S8205 and unread mail acquisition processing later mentioned per drawing 83 is performed. When existing ** mail acquisition is chosen, it progresses to step S8206 and existing ** mail acquisition processing later mentioned per drawing 84 is performed. When schedule printing is chosen, it progresses to step S8207 and schedule printing processing is performed. When referring to the

schedule is chosen, it progresses to step S8208 and schedule reference processing is performed. When referring to the address book is chosen, it progresses to step S8209 and address book reference processing is performed. When a log out is chosen, it progresses to step S8210 and log out processing explained per drawing 52 is performed.

[0278] Drawing 83 is a flow chart which shows unread mail procedure. This accesses its own desk and shows the flow of the processing at the time of reading unread mail. The list of unread mails is expressed as step S8300. Drawing 85 is drawing showing the example of the list of unread mails. Mail of a processing object is chosen at step S8301. The processing to this selected mail is chosen at step S8302.

[0279] When a main menu is chosen at step S8302, it returns to the main menu of a desktop at step S8304. When "it opens" is chosen, the selected mail is opened and the contents are expressed as step S8305. Drawing 86 is drawing showing the example of a display of the contents of e-mail. When a pre-display and a next display are chosen, return and the contents of corresponding mail are expressed to step S8305 as step S8306. When printing and deletion are chosen, printing of deletion of mail of step S8308 and mail of step S8309 is performed, respectively. At step S8302, also when printing and deletion are chosen, printing of deletion of mail of step S8308 and mail of step S8309 is performed, respectively. When printing is chosen altogether, all mails are printed at step S8310. When "existing ** mail (Old)" is chosen, existing ** mail later mentioned per drawing 84 is processed.

[0280] E-mail printing accesses its own desk, and acquires and prints e-mail. About printing, a printing place etc. can be specified like printing of the above-mentioned job. All e-mail printings access their own desk, and acquire and print all mails. E-mail deletion accesses its own desk, and deletes e-mail. The check of deletion may be made to be performed like deletion of a job in that case.

[0281] Drawing 84 is a flow chart which shows existing ** mail procedure. This accesses its own desk and shows the flow of the processing at the time of reading existing ** mail. The list of unread mails is expressed as step S8401. Drawing 87 is drawing showing the example of the list of existing ** mails. Mail of a processing object is chosen at step S8402. The processing to this selected mail is chosen at step S8403.

[0282] When a main menu is chosen at step S8404, it returns to the main menu of a desktop at step S8405. When "it opens" is chosen, the selected mail is opened and the contents are expressed as step S8406. Drawing 86 is drawing showing the example of a display of the contents of e-mail. When a pre-display and a next display are chosen, return and the contents of corresponding mail are expressed to step S8406 as step S8407. When printing and deletion are chosen, printing of deletion of mail of step S8409 and mail of step S8410 is performed, respectively. At step S8302, also when printing and deletion are chosen, printing of deletion of mail of step S8409 and mail of step S8410 is performed, respectively. When "unread mail (Unread)" is chosen, unread mail explained per drawing 83 is processed.

[0283] Drawing 88 is a flow chart which shows the procedure of file processing. This accesses its own desk and shows the flow of the processing at the time of operating it to the file on a desktop. A setup for file acquisition is performed at step S8801. Drawing 130 is drawing showing the example of the setting screen for file acquisition. Here, a file name can be set up. The processing which should be performed for acquisition is chosen at step S8802.

[0284] When retrieval is chosen at step S8802, retrieval conditions are set up, a search of the file of a desktop is performed at step S8804, and the list of files which correspond to setups at step S8805 is expressed as step S8803. When a file list (Show All) is chosen, the list of the files of a desktop is expressed as step S8802. Drawing 131 is drawing showing the example of a list display of the file of a desktop. A file is chosen from a retrieval result or a list display at step S8807. Thus, when it chooses, or when a file name is inputted and acquisition is directed at step S8802, an applicable file is acquired from a desktop at step S8808. The processing to this file is chosen at step S8809. Drawing 132 is drawing showing the example of the selection screen of processing to an acquisition file. Here, when printing is chosen, the file acquired at step S8811 is printed. When transmission is chosen, the acquired file is transmitted at step S8812.

[0285] In addition, even if it applies this invention to the equipment which consists of a single device, it

may be applied to the system which consists of two or more devices. Moreover, the storage which memorized the program code of the software which realizes the function of the operation gestalt mentioned above may be supplied to equipment or a system, and you may attain by reading and performing the program code with which the computer in equipment or a system was stored in the storage.

[0286] Furthermore, by reading and performing the program code with which the computer in equipment or a system was stored in the storage, also when an above-mentioned function is realized, it is contained by processing of OS which it not only realizes directly the function of the operation gestalt mentioned above, but is working on a computer based on directions of the program code.

[0287] The storage which memorized the program code in these cases will constitute this invention.

[0288]

[Effect of the Invention] As explained above, according to this invention, it is effective in the ability to change the printing stage of the information for printing under printing standby.

[0289] Moreover, it is effective in the ability to print easily [the printing stage to be different] the information for printing that printing is planned at a certain stage.

[Translation done.]

* NOTICES *

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1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

- [Drawing 1] It is drawing having shown the functional configuration of an operation gestalt.
- [Drawing 2] It is drawing showing the detail of the functional configuration of this operation gestalt.
- [Drawing 3] It is drawing explaining the information flow corresponding to actuation of a user.
- [Drawing 4] It is drawing having shown the flow which processes a user's input as a command.
- [Drawing 5] It is drawing having shown the flow of the processing which displays a processing result and status change on a user.
- [Drawing 6] It is drawing showing the relation of the function between two or more devices.
- [Drawing 7] It is a system configuration Fig. concerning this operation gestalt.
- [Drawing 8] It is the functional block diagram of the printer concerning this operation gestalt.
- [Drawing 9] It is the flow chart which shows the starting sequence of a power up.
- [Drawing 10] It is a flow chart showing actuation of a client component.
- [Drawing 11] It is the flow chart which shows the procedure of the server component to the demand of a client.
- [Drawing 12] It is the flow chart which shows CancelAllPrinterjobs procedure.
- [Drawing 13] It is the flow chart which shows the procedure of GetAllPrinterjobs.
- [Drawing 14] It is the flow chart which shows the procedure of SetPrinterJobStatus.
- [Drawing 15] It is the flow chart which shows the procedure of a demand "login" and "logout."
- [Drawing 16] It is the flow chart which shows the procedure of a demand "Goto Other Device" and "Goto Desktop."
- [Drawing 17] It is the flow chart which shows the procedure of a demand "Search", "Help", and "Receive Job/Receive Notification."
- [Drawing 18] It is the flow chart which shows the procedure of IdAnalyze.
- [Drawing 19] It is the flow chart which shows the procedure of DUMMY.
- [Drawing 20] It is the flow chart which shows the procedure of IdAnalyzeNotify.
- [Drawing 21] It is the flow chart which shows the procedure of RecieveHttpNotification.
- [Drawing 22] It is the flow chart which shows the procedure of a demand "Print", "Send", "Delete", "Reschedule", and "Preview."
- [Drawing 23] It is the flow chart which shows the procedure of PrintJob.
- [Drawing 24] It is the flow chart which shows the procedure of SendJob.
- [Drawing 25] It is the flow chart which shows the activation procedure of transmission by SendJob.
- [Drawing 26] It is the flow chart which shows the procedure of CancelJob.
- [Drawing 27] It is the flow chart which shows the procedure of SendNotification.
- [Drawing 28] It is drawing showing the correspondence relation of the input and processing to a server.
- [Drawing 29] It is the flow chart which shows the procedure from starting of a demon.
- [Drawing 30] It is the flow chart which shows the Notification procedure of a demon module.
- [Drawing 31] It is drawing showing the relation between the class of job which a demon treats, and corresponding processing.

- [Drawing 32] It is the flow chart which shows the procedure of PrintPrinterJob.
- [Drawing 33] It is the flow chart which shows the procedure of Sendjob.
- [Drawing 34] It is the flow chart which shows the procedure of ReceivejobData.
- [Drawing 35] It is the flow chart which shows the procedure of GetListOfJobAttribute.
- [Drawing 36] It is the flow chart which shows the procedure of PollJob.
- [Drawing 37] It is the flow chart which shows the procedure of PollNotify.
- [Drawing 38] It is the flow chart which shows the procedure of CancelAction.
- [Drawing 39] It is the flow chart which shows the procedure of EditAction.
- [Drawing 40] It is the flow chart which shows the procedure of EditAction.
- [Drawing 41] It is the flow chart which shows the procedure of RescheduleAction.
- [Drawing 42] It is the flow chart which shows the procedure of RescheduleAction.
- [Drawing 43] It is the flow chart which shows the procedure of RescheduleAction.
- [Drawing 44] It is the flow chart which shows the procedure of AddNotification.
- [Drawing 45] It is the flow chart which shows the procedure of AddInstruction.
- [Drawing 46] It is the flow chart which shows the procedure of GetInstruction.
- [Drawing 47] It is the flow chart which shows the procedure of ExecutionInstruction.
- [Drawing 48] It is the flow chart which shows the procedure of the server component of a desktop.
- [Drawing 49] It is the flow chart which shows the procedure of the demand about e-mail.
- [Drawing 50] It is the flow chart which shows the procedure of the demand about a schedule.
- [Drawing 51] It is the flow chart which shows the procedure of the demand about other devices.
- [Drawing 52] It is the flow chart which shows the procedure of the demand about a log out and a help.
- [Drawing 53] It is the flow chart which shows the procedure from an initial menu screen.
- [Drawing 54] It is the flow chart which shows the procedure of public information.
- [Drawing 55] It is the flow chart which shows log in procedure.
- [Drawing 56] It is the flow chart which shows the procedure which chooses a job and performs action.
- [Drawing 57] It is the flow chart which shows the preview procedure of Selection Job.
- [Drawing 58] It is the flow chart which shows the deletion procedure of Selection Job.
- [Drawing 59] It is the flow chart which shows the schedule modification procedure of Selection Job.
- [Drawing 60] It is the flow chart which shows the printing procedure of Selection Job.
- [Drawing 61] It is the flow chart which shows the modification procedure of a printing setup of Selection Job.
- [Drawing 62] It is the flow chart which shows the transmitting procedure of Selection Job.
- [Drawing 63] It is the flow chart which shows the modification procedure of a transmitting setup of Selection Job.
- [Drawing 64] It is the flow chart which shows the procedure from a main menu.
- [Drawing 65] It is the flow chart which shows retrieval procedure.
- [Drawing 66] It is the flow chart which shows the additional procedure to public information.
- [Drawing 67] It is the flow chart which shows printing procedure.
- [Drawing 68] It is the flow chart which shows the remote print procedure by the printer.
- [Drawing 69] It is the flow chart which shows transmitting procedure.
- [Drawing 70] It is drawing showing the example of a transmitting setting menu.
- [Drawing 71] It is drawing showing the example of a transmitting setting modification menu.
- [Drawing 72] It is the flow chart which shows the remote SENDO procedure by the printer.
- [Drawing 73] It is drawing showing the example of the menu for choosing the equipment with which Job to delete exists.
- [Drawing 74] It is drawing showing the example of the list of deletion Job.
- [Drawing 75] It is the flow chart which shows a deletion procedure.
- [Drawing 76] It is the flow chart which shows the remote deletion procedure by the printer.
- [Drawing 77] It is the flow chart which shows the setting procedure of an instruction.
- [Drawing 78] It is the flow chart which shows schedule modification procedure.
- [Drawing 79] remote one -- rescheduling -- it is the flow chart which shows joule processing procedure.

- [Drawing 80] It is the flow chart which shows the access procedure to other devices.
- [Drawing 81] It is drawing showing the setting screen for accessing other devices.
- [Drawing 82] It is the flow chart which shows the procedure of a desktop.
- [Drawing 83] It is the flow chart which shows unread mail procedure.
- [Drawing 84] It is the flow chart which shows existing ** mail procedure.
- [Drawing 85] It is drawing showing the example of the list of unread mails.
- [Drawing 86] It is drawing showing the example of a display of the contents of e-mail.
- [Drawing 87] It is drawing showing the example of the list of existing ** mails.
- [Drawing 88] It is the flow chart which shows the procedure of file processing.
- [Drawing 89] It is the flow chart which shows the procedure of ResetInstructions.
- [Drawing 90] It is the flow chart which shows DeleteAllInstructions procedure.
- [Drawing 91] It is the flow chart which shows the procedure of DeleteInstructions.
- [Drawing 92] It is the flow chart which shows the procedure of GetInstructionDetails.
- [Drawing 93] It is the flow chart which shows the procedure of Check.
- [Drawing 94] It is the flow chart which shows the procedure of GetJobData.
- [Drawing 95] It is the flow chart which shows the procedure of GetJobAttributes.
- [Drawing 96] It is the flow chart which shows the procedure of GetActionAttributes.
- [Drawing 97] It is the flow chart which shows the procedure of DeleteJob.
- [Drawing 98] It is the flow chart which shows the procedure of GetNotificationList.
- [Drawing 99] It is the flow chart which shows the procedure of SetNotificationCondition.
- [Drawing 100] It is the flow chart which shows the procedure of SetNotificationCondition.
- [Drawing 101] It is the flow chart which shows the procedure of SetNotificationStatus.
- [Drawing 102] It is the flow chart which shows the procedure of ClearHistory.
- [Drawing 103] It is the flow chart which shows the procedure of DeleteAllPublicInfoJobs.
- [Drawing 104] It is the flow chart which shows the procedure of PrintPublicInfo.
- [Drawing 105] It is the flow chart which shows the procedure of SearchData.
- [Drawing 106] It is drawing showing the example of a screen of an initial menu.
- [Drawing 107] It is drawing showing the printing setting screen of URL.
- [Drawing 108] It is drawing showing a password input screen.
- [Drawing 109] It is drawing showing the setting screen of processing to the job chosen within the print queue.
- [Drawing 110] It is drawing showing the processing setting screen of public information.
- [Drawing 111] It is drawing showing the example of the setting screen for releasing information on other devices.
- [Drawing 112] It is drawing showing a log in screen.
- [Drawing 113] It is drawing showing the example of the list of suspended jobs.
- [Drawing 114] It is drawing showing the example of a screen display of a preview of a job.
- [Drawing 115] It is drawing showing the check screen of deletion.
- [Drawing 116] It is drawing showing the setting screen for modification of a schedule.
- [Drawing 117] It is drawing showing the example of a printing setting menu.
- [Drawing 118] It is drawing showing the example of a notice setting screen.
- [Drawing 119] It is drawing showing the example of a printing setting modification menu.
- [Drawing 120] It is drawing showing the example of a correction menu.
- [Drawing 121] It is drawing showing the example of a main menu.
- [Drawing 122] It is drawing showing the example of the menu for choosing a location with the job for printing.
- [Drawing 123] It is drawing showing the example of the menu for choosing the job for printing.
- [Drawing 124] It is drawing showing the example of the menu for choosing a location with the job for transmission.
- [Drawing 125] It is drawing showing the example of the menu for choosing the job for transmission.
- [Drawing 126] It is drawing showing the example of an instruction setting screen.

[Drawing 127] It is drawing showing the example of the menu for choosing the equipment with which Job to change exists.

[Drawing 128] It is drawing showing the example of the selection screen for [of a schedule / Job] modification.

[Drawing 129] It is drawing showing the example of a desktop main menu.

[Drawing 130] It is drawing showing the example of the setting screen for file acquisition.

[Drawing 131] It is drawing showing the example of a list display of the file of a desktop.

[Drawing 132] It is drawing showing the example of the selection screen of processing to an acquisition file.

[Drawing 133] It is drawing showing the setting screen for a setup of the limit to a job.

[Drawing 134] It is drawing showing the setting screen for a setup of refusal of a job.

[Description of Notations]

101 User

102 Client Component

103 Server Component

104 Database

105 Demon

201 Control Unit

202 203 Web browser

204 Web Server

205 Device Manager

206 Printer

207 Request Manager

208 Command Analysis Section

209 Database Manager

601 Printing Control Section

602 Control Section

603 Conversion Control Section

604 Display and Control Section

605 Notice Control Section

606 Exterior -- Application -- Control Section

607 Printing Section

608 E-mail Control Section

701 Network

702 Printer

703 Input/output Operation Section

704 Scanner

705 Multifunction Device

706 Personal Computer

801 Touch Panel

802 CPU

803 Printing Section

804 Communications Department

805 ROM

806 RAM

807 HDD

808 System Bus

[Translation done.]